

**REMARKS**

This Amendment is filed in response to the non-final Office Action dated October 5, 2007, and is respectfully submitted to be fully responsive to the objections and rejections raised therein. Accordingly, favorable reconsideration on the merits and allowance is respectfully submitted to be proper.

The amendments and how they respond to the objections and rejections set forth in the Office Action are explained below in detail.

In the present Amendment, claims 1-15 have been amended to improve their form. Further, claims 1 and 12 have been amended to emphasize that the detector of the radiotracer particles is advantageously placed adjacent to the system to allow a continuous measurement of the emitted radiation while the engine is in use.

No new matter has been added. Support for the Amendment can be found in the specification on page 9, lines 19-32, for example.

Entry of the Amendment is respectfully submitted to be proper. Upon entry of the Amendment, claims 1-15 will be all the claims pending in the application.

**I. Claim Objections**

Claims 7, 8, 10, 11 and 14 are objected to as having allegedly improper or misleading claim language.

Applicants respectfully request reconsideration and withdrawal of the objections in view of the amendments to the claims. Particularly, claims 7, 8, 10, 11 and 14 have been amended to refer to claims in the alternative.

## **II. Rejections Under 35 U.S.C. § 103(a)**

Claims 1, 12 and 13 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. 3,471,696 to Moore et al.<sup>2</sup> (“Moore et al.”) in view of U.S. 5,445,964 to Lee et al. (“Lee et al.”) and U.S. 3,988,926 to Haas (“Haas”).

Claims 2, 6 and 7-11 are rejected over the combined teachings of Moore et al., Lee, Haas, Hevesy & Levi (1936) (Wikipedia <http://en.wikipedia.org/wiki/Neutronactivationanalysis>), Richie et al. (U.S. Patent Application Publication 2004/0025853) and McMaster, “McMaster Nuclear Reactor” <http://www.science.mcmaster.ca/MNR/NAA-Page/naa.htm> (11/26/2002).

Claim 3 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Moore et al., Lee et al., Haas, WLINTERINGHAM Nature 167, 1951, p. 155) and Snell (Phys. Rev. A 52, 1937, pp. 1007-1022).

Claims 14 and 15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the combined teachings of Moore et al., Lee et al., Haas and Fromm (1997).

The Examiner asserts that Moore et al. discloses a method or a device for the continuous determination of oil consumption, which reflects a damage to at least one system for post-treatment of the exhaust gases from an internal combustion engine, wherein steps (i), (ii) and (iii) recited in present claims 1 and 12 are allegedly described therein.

The Examiner admits that Moore et al. is not specifically aimed at determining the damage to a system, but rather directed towards a process to determine oil consumption. The Examiner’s position is that the intermediate results obtained in the process described in Moore et

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<sup>2</sup> The Examiner refers to U.S. 3,471,696 as Moore et al even though the first named invention is Mayer.

al., which determines the radioactivity of combustion gases accumulated in the post treatment system, can readily be used to determine the degree of damage inflicted to any filter or trap used in the system. Further, that the above-mentioned filter or trap corresponds to a system for post-treatment of exhaust gases from an internal combustion engine.

The Examiner further admits that Moore et al. does not transmit counts recorded by a scaler to a programmed computer to convert the measurements into the degree of damage caused by the lubricating oil, the fuel and/or the additives to the post-treatment system as recited in independent claims 1 and 12.

The Examiner takes the position that, Lee et al. preference for using laser diode spectroscopy is overcome by Moore et al. because Moore et al. employs a low-level bromine tracer having 35 microCurie activity. Therefore, according to the Examiner, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the alternative bromine method described in Moore et al. instead of the laser diode spectroscopy method described in Lee et al. because the bromine tracer method is known to have important advantages, which are described in Moore et al. at columns 25-35.

Applicants traverse and request that the rejections are withdrawn in view of the following remarks.

Lee et al. is directed to a method for concurrently measuring fuel and engine oil consumption in an internal combustion engine utilizing a turnable diode laser spectrometer for analyzing non-radioactive tracer elements within an exhaust gas sample that has been passed through a sample cell.

Neither Moore et al., Haas, nor Lee et al. teach or suggest a process for continuous determination of damage. The references do not teach or suggest, alone or in combination, a

continuous process for measuring oil consumption, or a continuous measure for determining damage to a system for post treatment of exhaust gases from a combustion engine. Therefore, independent claims 1 and 12 are patentable over the prior art of record.

Further, independent claims 1 and 12 have been amended to emphasize that the detector sensitive to radiation is placed advantageously at a distance allowing a continuous measurement of the radiation emitted by the engine. This means that the measurement is done directly "on" the engine, which may be in use, in a continuous manner. Thus, the method and device allows the measurement of an "instantaneous" consumption rate which is a feature that is not taught or suggested in the cited references.

Additionally, Moore et al. discloses a device for measuring the oil consumption based on radioactivity measurement. However, Moore et al. does not disclose a continuous measurement, and/or a measurement which can be continued while the engine is in use. The reference does not teach or suggest that a detector is placed in such a way that it can measure while the trap is in place and thus obtain the engine is in use. Further, the reference does not teach or suggest a transmission of the data to a computer in order to convert it to the continuous determination of the damages. Contrarily, the subject matter of independent claims 1 and 12 allows the instantaneous determination of the damages, even while the engine is in use. This feature is not described or suggested in Moore et al.

Lee et al., on the other hand, teaches a method for determining oil consumption in an internal combustion engine by laser spectroscopy of non-radioactive compounds. Thus, Lee et al. describes a very different technique than the one disclosed in Moore et al.

Moreover, Lee et al. teaches away from a radioactivity measurement as it teaches that "the use of radiometric methods are undesirable because of radioactive health and security considerations." (col. 1, lines 56 to 66).

Furthermore, Lee et al. does not teach or suggest that a detector of radioactivity is placed close to the trap in order to measure the radioactivity "on site" and while the engine is in use.

Thus, the subject matter of independent claims 1 and 12 is not obvious in view of Moore et al. and Lee et al. Claims 2-11 and 13-15 depend directly or indirectly from claims 1 and 12 and are therefore patentable over the art for at least the above-mentioned reasons. Accordingly, withdrawal of the rejection is respectfully requested.

### **III. Obviousness-Type Double Patenting**

Claims 1, 3-6 and 12-15 are rejected under the judicially created Doctrine of Obviousness Double Patenting as being unpatentable over claims 1, 14, 4, 15, 7, 12 and 13 of U.S. Patent 7,291,836 (U.S. Patent Application 10/526,973).

Without conceding to the merits of the rejection and to advance prosecution, Applicants' submit herewith a Terminal Disclaimer to overcome the Doctrine of Obviousness-type Double Patenting rejection.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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